



# Regional Sediment Management

**The Coastal Sediment Analyst: A Prototype Decision Support Tool for Regional Sediment Management**

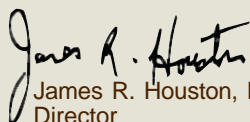
**eCoastal Enterprise Geographic Information System**

**National Dredging Team's Action Agenda Can Help Advance Regional Sediment Management Approaches**

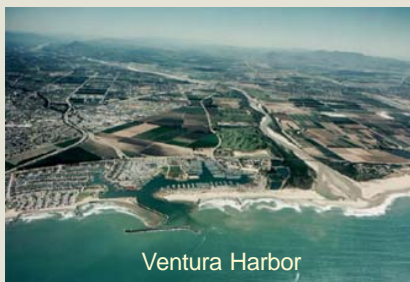
**USACE, Galveston District Sponsors Stakeholder Workshops**

## Regional Sediment Management

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James R. Houston, Ph.D.  
Director

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Ventura Harbor

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# The Coastal Sediment Analyst: A Prototype Decision Support Tool for Regional Sediment Management

*by Heather Sumerell and Sisie Ming, U.S. Army Engineer District, Los Angeles*

The development of Geographic Information System (GIS)-based management support tools is one of the goals of the U.S. Army Engineer District, Los Angeles' Regional Sediment Management (RSM) project. These tools will assist decision-makers and engineers in making sediment management decisions, including evaluating future dredging and disposal options along the California coast.

An initial step in achieving this goal was accomplished through the creation of the Coastal Sediment Analyst (CSA), a prototype GIS-based model. The purpose of the tool is to maximize net benefits from a regional perspective by computing the incremental costs of sediment management activities versus the associated benefits. Through the development of this pilot study, the model architecture, data structures, data requirements, and model interface have been specified and tested.

The CSA is able to describe the complex, spatially dependent relationships between the cost of sediment transportation and associated (locally specific) benefits that relocation will generate in a quantitative manner. The development of the CSA required a series of custom Visual Basic programs that were integrated with the GIS software to create an interface that allows users to select candidate dredge and disposal sites. The user also specifies certain options such as a preferred dredging method, conveyance system, disposal strategy, and other site-

specific variables. The tool utilizes a series of specially developed response functions by integrating them with the geospatial data sets and user-specific inputs to calculate the costs and benefits of different dredging and disposal options. Ventura Harbor and several nearby beaches in California were used to develop and test this new model.

The current version of the CSA prototype incorporates a single user interface, on-line help documents, and various error-catching routines. The steps required to obtain a cost-benefit analysis for various dredging and disposal scenarios are as follows:

- Step 1.** Load CSA application and geospatial data (Figure 1)
- Step 2.** Select a harbor and number of dredging and disposal scenarios
- Step 3.** Select the candidate beaches, specify volume of sediment placed at each beach for each scenario, and input the existing beach width (Figure 2)
- Step 4.** Select transport and disposal methods (Figure 3)
- Step 5.** Specify transport and disposal costs
- Step 6.** Review estimated costs for transport and placement of sediment
- Step 7.** Select a method for calculating economic benefits and specify beach use characteristics

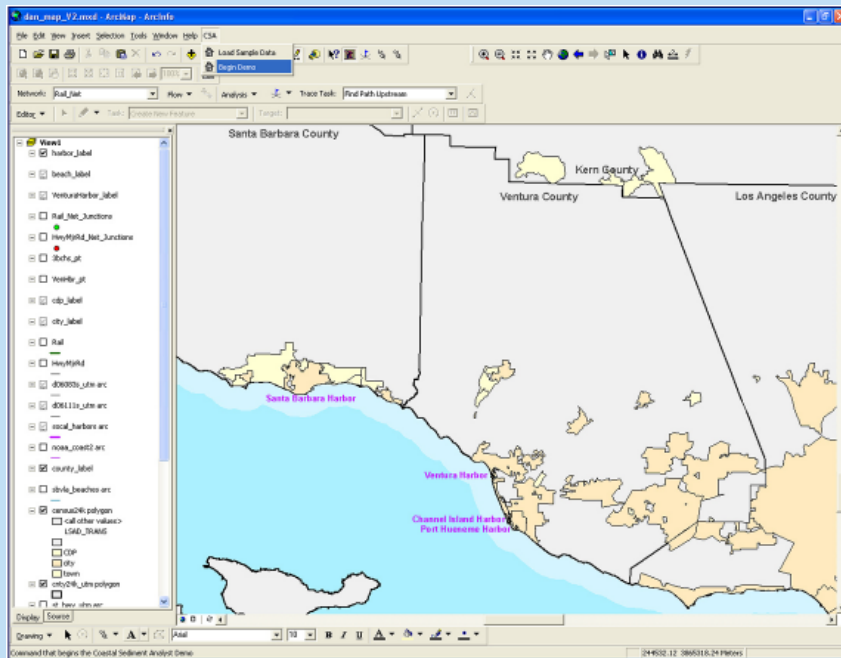


Figure 1. CSA application

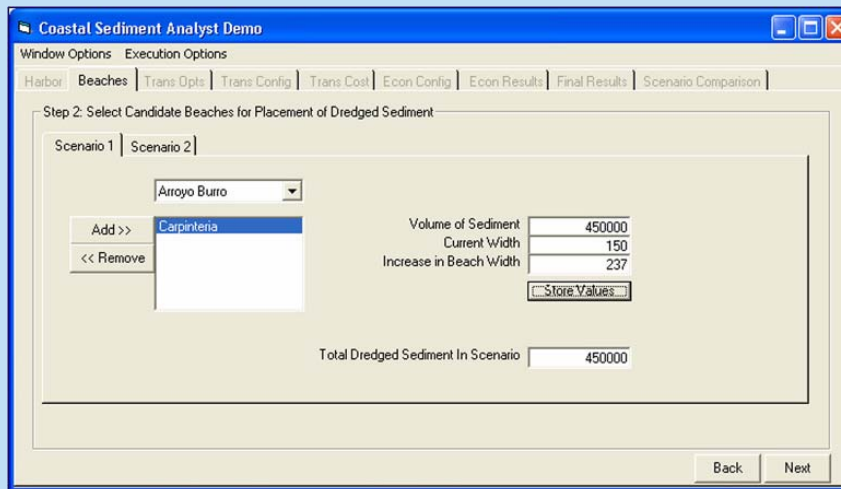


Figure 2. Select candidate beaches for placement of dredged material

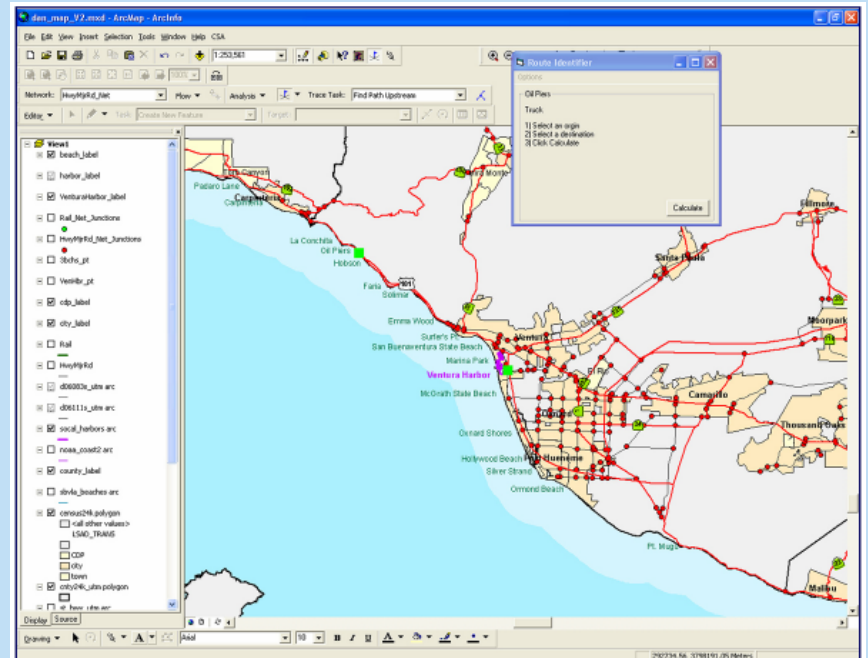


Figure 3. Transportation method - road network

- Step 8.** Review estimated costs for transport and placement of sediment
- Step 9.** Review summary table for each scenario and table combining all scenarios that were considered (Figure 4)

## Conclusions

The prototype GIS model utilizes the Ventura Harbor dredging and disposal operation to illustrate the potential strengths and weaknesses of building these types of GIS applications. The tool was used to analyze the benefits and costs of placing dredged material at three

## A. CSA Tool

Variable	Carpinteria	Oil Piers	Oxnard Shores
Least transportation cost	\$522,000	\$426,000	\$313,500
Recreational benefit (PV)	\$9,953,077	\$202,523	\$141,816
Recreational benefit/cost ratio	<b>19.1</b>	<b>0.5</b>	<b>0.45</b>
State economic impact (PV)	\$12,361,540	\$177,518	\$162,439
Economic impact/cost ratio	23.7	0.4	0.52
State tax revenues (PV)	\$988,923	\$14,201	\$12,995
State tax revenue/cost ratio	<b>1.9</b>	<b>0.03</b>	<b>0.04</b>

## B. EIC (Appendix A)

Variable	Carpinteria	Oil Piers	Oxnard Shores
Least transportation cost	\$819,000	\$690,000	\$532,500
Recreational benefit (PV)	\$10,940,097	\$218,153	\$78,975
Recreational benefit/cost ratio	<b>13.4</b>	<b>0.3</b>	<b>0.1</b>
State economic impact (PV)	\$12,373,400	\$177,489	\$81,303
Economic impact/cost ratio	15.1	0.3	0.2
State tax revenues (PV)	\$989,872	\$14,199	\$6,504
State tax revenue/cost ratio	<b>1.2</b>	<b>0.02</b>	<b>0.01</b>

*Figure 4. Output of results from CSA tool*

beach locations. Four scenarios were chosen that varied the amount of sediment placed at each beach. Each scenario analyzed the costs of the three transportation methods: railroad, truck, and scow and tow. The tool then compared these costs with the associated recreational benefits attributable to the various disposal scenarios for each beach.

The results produced by the CSA tool were compared to an economic analysis conducted in conjunction with the tool development (Figure 4). Both methods conclude that the largest benefits would be obtained from placing the additional beach fill at Carpinteria Beach and that the scow and tow option provides the most cost-effective method of moving sediment from Ventura Harbor to each of the three beaches (Carpinteria, Oil Piers, and Oxnard Shores) analyzed with the new GIS-based tools.

There are four sets of limitations and shortcomings with the current prototype that need to be addressed in order to apply the tool to analyze conditions at other California harbors and beaches. First, the geospatial data sets describing the harbors, beaches, rail and road network would need to be expanded to cover the entire California coast. Second, some additional data and/or functions describing the historical dredging patterns at other harbors and the sediment budgets at specific beaches would need to be compiled and accessed by the CSA tool. Third, the unit costs for the final two additional dredging and conveyance methods (hopper dredge and pumpout, and pipeline) included in the current CSA tool would need to be fleshed out. Finally, some additional data and/or functions describing



the number of beach visitors and their spending behavior, and how these attributes could be expected to change with changes in beach width over time, would need to be compiled and accessed by the CSA tool.

## Future Plans

This CSA will be presented to focus workgroups to seek input from local, state, and Federal agencies on the potential applications of the model and suggestions to improve the model. A Strategy Whitepaper will be prepared to: summarize the status of the pilot GIS model including the model assumptions, structure, and application; integrate comments received from the participants at the Regional and National Focus Group meetings; identify data and functional gaps that might exist for the pilot GIS model to satisfy local, regional, state, and national needs for sediment management optimization; and propose a strategy to further improve and develop the pilot GIS model to satisfy local, regional, state and national needs for regional sediment management.



# eCoastal Enterprise Geographic Information System

*by W. Jeff Lillycrop and Rose Dopsovic (Contractor), U.S. Army Engineer District, Mobile*

Regional Sediment Management (RSM) spatial data management and analysis needs are now supported through the eCoastal GIS. eCoastal GIS is designed according to the enterprise Geographic Information Systems (eGIS) policies of the U.S. Army Corps of Engineers and provides RSM and other coastal engineering analysis tools and applications. eGIS is the integrated geospatial technology infrastructure delivering spatial information products, services, and standard data sets to all functional elements and business processes of the organization. eCoastal is scalable, which means that other tools and applications can be developed and added without impacting existing capabilities. The system is a collaborative effort by the Spatial Data Branch of the U.S. Army Engineer District, Mobile, and the Engineer Research and Development Center's (ERDC's) Coastal and Hydraulics Laboratory (CHL).

## Architecture

eCoastal is an integration of commercial off-the-shelf software, specially developed applications, desktop and Web based access, servers, mass storage devices, data standards, and public and commercial Web services as shown in Figure 1. It consists of many Environmental Systems Research Institute (ESRI) products, including ArcSDE, ArcGIS, and ArcIMS.

These are integrated with a relational geodatabase, such as SQL Server or Oracle. The geodatabase must be compliant using the Spatial Data Standards (SDS) according to ER 1110-1-8156 and EM 1110-1-2902. This is an important point that can significantly help if followed precisely. If each District uses the eCoastal SDS geodatabase, then new applications developed by any lab, district, agency, or industry will work Corps-wide, thus saving development costs for others and making it easy to share new tools.

Data may be stored in a single geodatabase, but data delivery performance is improved with a distributed database architecture, especially when terabytes of data are involved. Access to data is through ArcSDE or Web based applications that connect directly, depending on the requirement. Several approaches may be used to access and use the data, including downloading data from the geodatabase to a desktop for use in a project GIS or in other applications such as a numerical model. The majority of users, however, are looking for a map or to present data in a graphic form. For these users, ArcIMS provides the functions and access to quickly produce graphics and maps for meeting presentations and reports. ArcIMS is an Internet Web browser interface to the data in the geodatabases.

Also, a key benefit is that once this architecture is established, then Districts are well on their way to implementing eGIS according to Corps policy and guidance.

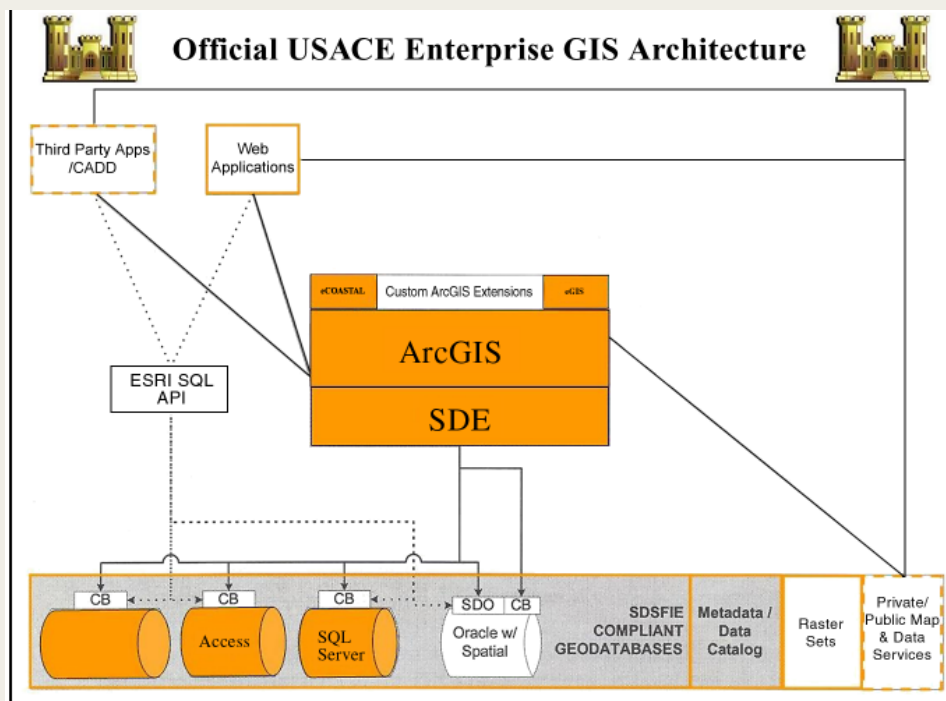


Figure 1. eCoastal architecture

## Applications

eCoastal began with development and integration of a few tools and applications to support RSM needs. These first elements helped manage regional scale data sets and created an SDS compliant structure. The next elements helped perform a few basic calculations to analyze regional scale data and create a regional sediment budget. Then, a partnership was formed between the Mobile District and CHL that accelerated eCoastal growth and greatly expanded its capabilities beyond RSM to include other tools and applications useful for coastal engineers, scientists, and managers. Today eCoastal has five primary

functional areas: Data Management; Dredging Management; Environmental; Impact Evaluation; and Sediment Budget Analysis.

Data management provides tools and applications to help load and locate data in the geodatabase. It includes geospatial data and importantly, nongeospatial data such as reports, pictures, time series data, and other historic information. These are stored in the database and tied to projects and geographic regions so that a standard GIS query can retrieve not only the geographic data, but also historic reports in MSWord or Adobe formats. Time series data can be viewed in graphic form and even historic pictures not tied to a specific coordinate can be stored and accessed. Figure 2 shows the historic picture viewer.

Dredging management includes the ability to access historic core borings of channel, borrow, and fill sites, view topographic and bathymetric data in two- and three-dimensional, access historic dredging data from databases, and access and visualize Silent Inspector data. For the latest information on Silent Inspector (SI) see "Status of Current Hopper and Bin Measurement Technologies," ERDC TN-DOER-T6 (<http://el.erdcl.usace.army.mil/elpubs/pdf/doert6.pdf>). Figure 3 shows near real-time Silent Inspector data displayed through the eCoastal ArcIMS for a U.S. Army Engineer District, Seattle, project. The SI data is accessed from the SI database in Vicksburg, Mississippi, and the eCoastal spatial data are accessed



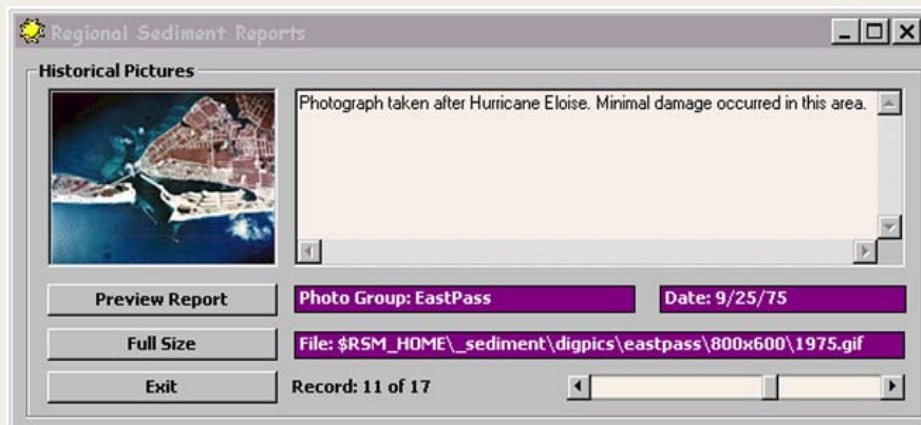


Figure 2. Historic picture viewer

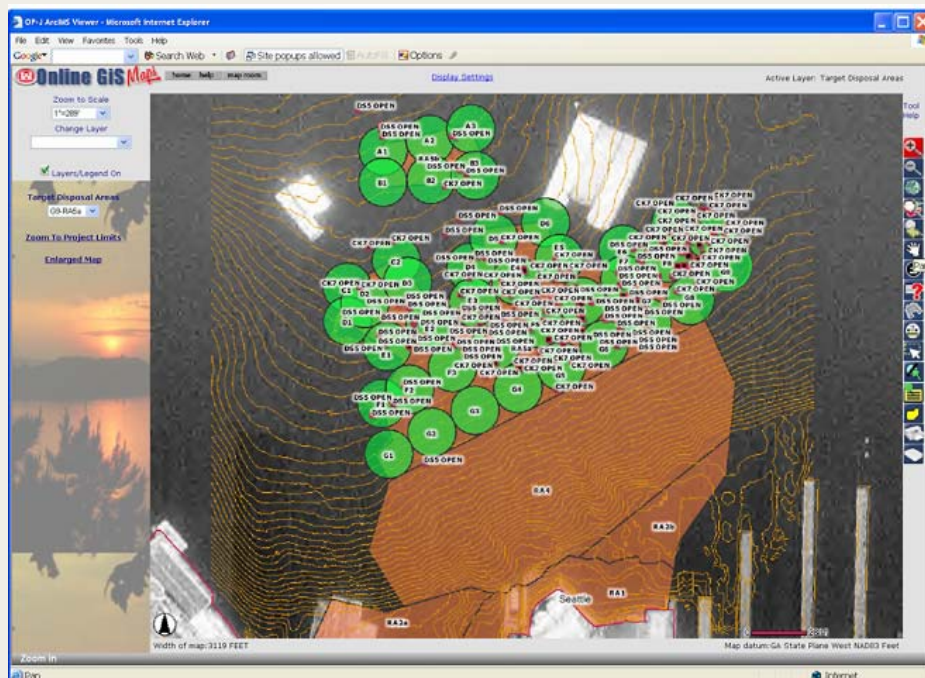


Figure 3. Seattle District SI and eCoastal data

through the district database and combined with SI data during the eCoastal ArcIMS query.

Environmental functions provide easy access to the National Wetland Inventory and other project and regional scale inventories. It also provides the ability to conduct change analysis and view permitting activities. This is one of the eCoastal functional areas that will expand over the coming years.

Impact evaluation is another functional area that has limited tools and applications, but will expand in capability. Currently, limited tools exist for supporting Dredge Material Management Planning, shore protection and navigation business functions of the Corps.

Regional sediment budgets are supported in eCoastal by the Sediment Budget Analysis System (SBAS), see "Sediment Budget Analysis System: Upgrade for Regional Applications," ERDC/CHL CHETN-XIV-3 (<http://chl.erdc.usace.army.mil/library/publications/chetn/pdf/chetn-xiv-3.pdf>). The eCoastal SBAS applications can create, visualize, populate, and analyze the SBAS tools. It can also import/export data in the GIS to/from the stand-alone version of SBAS.

## Data

There are many types of data that can be loaded into eCoastal, and the Mobile District currently has over 1,500 layers in its distributed geodatabases. However, this has been a continuing process over several years and District spatial data contracts require all new data to be delivered in SDS compliant

formats, with supporting metadata, so loading these new data into the geodatabases is easy. Historic data are being loaded, but on an as-needed basis. As new studies begin and need historic data, these studies fund the reformatting and loading into databases. Also, some data are loaded on an ongoing process funded through the District's eGIS program.

Some of the more common data types include, but are certainly not limited to: hydrographic and topographic survey data, aerial and oblique photography, dredge material records, digital nautical charts and USGS quad sheets, environmental data, and generic GIS information (Figure 5). Each of the data sets listed were converted to the same horizontal and vertical datum. The eCoastal GIS is in geographic coordinates (latitude/longitude) with the North American Datum 1983 (NAD83) as the horizontal datum and the North American Vertical Datum 1988 (NAVD88) as the vertical datum.

## Future Plans

eCoastal is being shared, at no cost, across the Corps. As each District begins its required eGIS program, eCoastal can help implement those requirements and provide immediate capabilities for RSM and for more conventional coastal needs, such as navigation, dredging, environmental planning, and general data management. It is well recognized that eCoastal does not provide every tool for every need across the Corps' coastal engineers, scientists, and managers, but it is a start. Our philosophy and goal is that by sharing the eCoastal existing formats and tools, new tools will be shared and adopted across the Corps as they are developed. This will save money by eliminating the duplication of tools and applications. It will also help spread the use of good applications.

## Points of Contact

All the eCoastal applications, SDS geodatabase formats, and architecture can be downloaded from the Spatial Data Branch, Mobile District at <http://gis.sam.usace.army.mil> (See Figure 4). Technical support for setting up the hardware, software and applications developed by the Mobile District can be obtained by contacting Rose Dopsovic, Spatial Data Branch, Mobile District ([rose.dopsovic@usace.army.mil](mailto:rose.dopsovic@usace.army.mil)). Technical support for the applications developed through CHL can be obtained by contacting Dr. Rose Kress, Chief, Navigation Division, CHL ([rose.m.kress@usace.army.mil](mailto:rose.m.kress@usace.army.mil)).

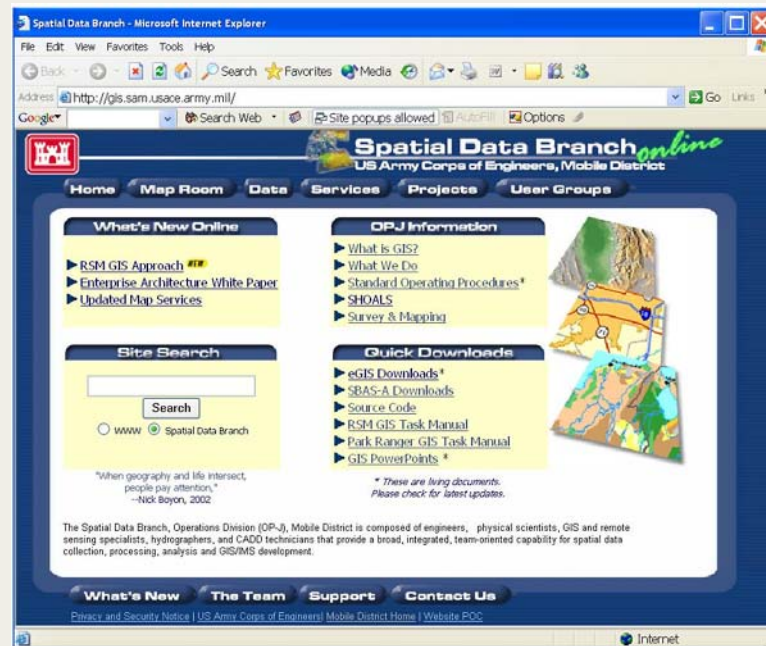


Figure 4. For further information on eCoastal



July 17, 2001



science for a changing world

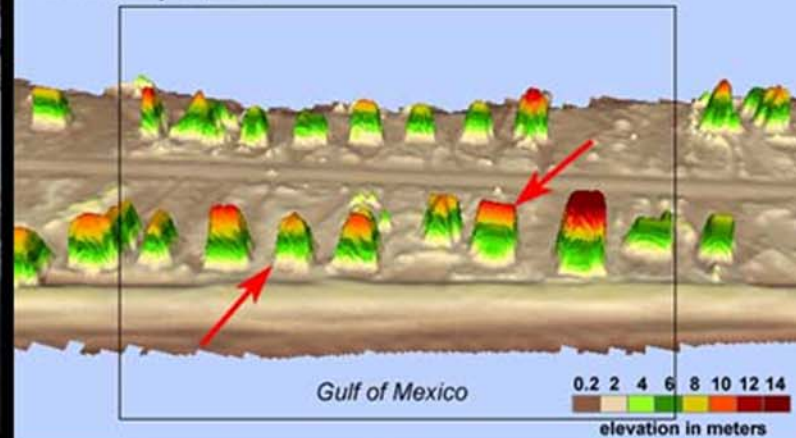
Center for Coastal & Watershed Studies - St. Petersburg/Tampa, Florida



September 17, 2004



Pre-Ivan, May 24, 2004



Post-Ivan, September 19, 2004

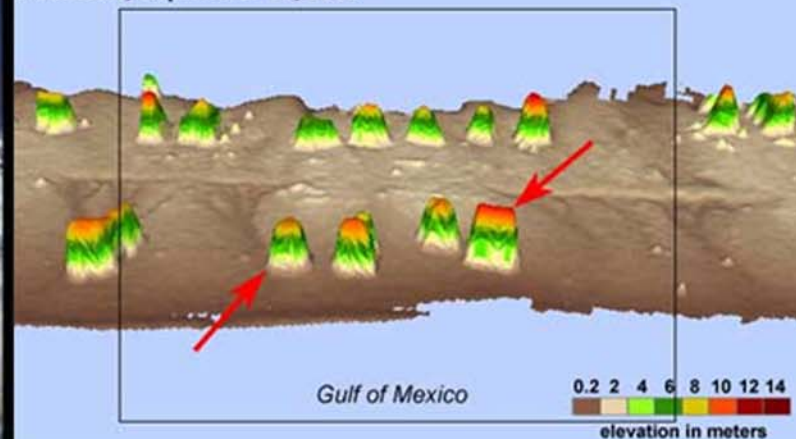


Figure 5. Pre-Ivan data were collected by SHOALS for USACE and post-Ivan data were collected by USGS/NASA. (Photo courtesy of Dr. Abby Sallenger, USGS)



# National Dredging Team's Action Agenda Can Help Advance Regional Sediment Management Approaches

by Lynn R. Martin, USACE, Institute for Water Resources

Beneficial partnerships, broader stakeholder involvement, and improved sediment management are all potential results of the coordination of regional sediment management (RSM) and the Action Agenda outlined by the National Dredging Team. Both recognize sediment as a resource, and emphasize the development of regional sediment management plans through partnerships that include Federal agencies, state and local governments, various public interests, and private citizens.

The National Dredging Team (NDT) is an inter-agency group established in 1995 to promote national and regional consistency on dredging issues, and to provide a mechanism for conflict resolution and information exchange among Federal, state and local agencies and stakeholders. The NDT is co-chaired by the Environmental Protection Agency and the U.S. Army Corps of Engineers. Other agency members include the Maritime Administration, US Fish and Wildlife Service, the National Oceanic and Atmospheric Administration's (NOAA's) National Marine Fisheries Service, NOAA's National Ocean Service, and the U.S. Coast Guard. Other agency participants include the U.S.



## Dredged Material Management Action Agenda for the Next Decade



**Figure 1. Cover of National Dredging Team's Action Agenda**

Based on a Workshop Sponsored by the  
National Dredging Team

January 23–25, 2001 • Jacksonville, Florida



Navy, the U.S. Geological Survey, and U.S. Department of Agriculture.

Eleven Regional Dredging Teams (RDTs) have been established to improve dredged material management by fostering communication and planning, providing a forum for issue resolution, and increasing public education and community involvement. The RDTs work to resolve local-level issues that arise during the permitting process, dredged material disposal management and planning, and new navigation project planning. They review overall regional dredging issues and specific projects as necessary to improve coordination and resolve controversies; ensure that necessary local agreements are completed and implemented; serve as a forum for information exchange among and provide guidance to local/regional dredged material planning groups on the development of long-term dredged material management plans. The RDTs can refer issues to the NDT for resolution.

RDTs have been established in the following regions: the Great Lakes, Northeast, Southeast, Gulf of Mexico, Southern California, Northern California, Pacific Northwest, Alaska, and Hawaii. The membership, nature of the efforts, processes used, and levels of effort vary among the RDTs, not unlike the RSM demonstration efforts. Some RDTs work with Local Planning/Project Groups (LPGs) to identify issues and opportunities, share information, and develop plans.

The NDT's Dredged Material Management: Action Agenda for the Next Decade (Figure 1), supports regional sediment management in the context of watershed management and planning. The Action Agenda includes recommendations

grouped by categories: beneficial use of dredged material, sediment management, emerging issues, and strengthening RDTs (Figure 2). This Action Agenda can be found at:

<http://www.epa.gov/owow/oceans/ndt/DredgingActionPlan.pdf>.

The RDTs and LPGs appear to be valuable forums through which to coordinate and advance the RSM demonstration initiatives, and to seek opportunities for collaboration and leveraging information, technology, and opportunities for regionally managing sediment. Many of the recommendations in the NDT's Action Agenda are directly related to the RSM goals being established in some regions.

While the RSM philosophy and the NDT Action Agenda are consistent, they are not identical. Most notably, RSM includes consideration of sediment management other than that related to dredging ports and channels. It also considers beach nourishment for storm damage reduction and habitat restoration, actions taken to divert or trap sediment, erosion protection structures and methods for riverbanks, shorelines, seabeds, and channel bottoms, sand and gravel mining effects on the sediment system, and ecosystem restoration objectives. Coordination between RSM team members and RDT and LPG efforts can help improve management of sediment resources to meet the broad range of needs and interests, in the context of the sediment systems in which it occurs.

The NDT's Action Agenda recommends that the beneficial use of dredged material become a national, regional, and local priority, with support from all levels of government. Proactive identification of potential beneficial uses

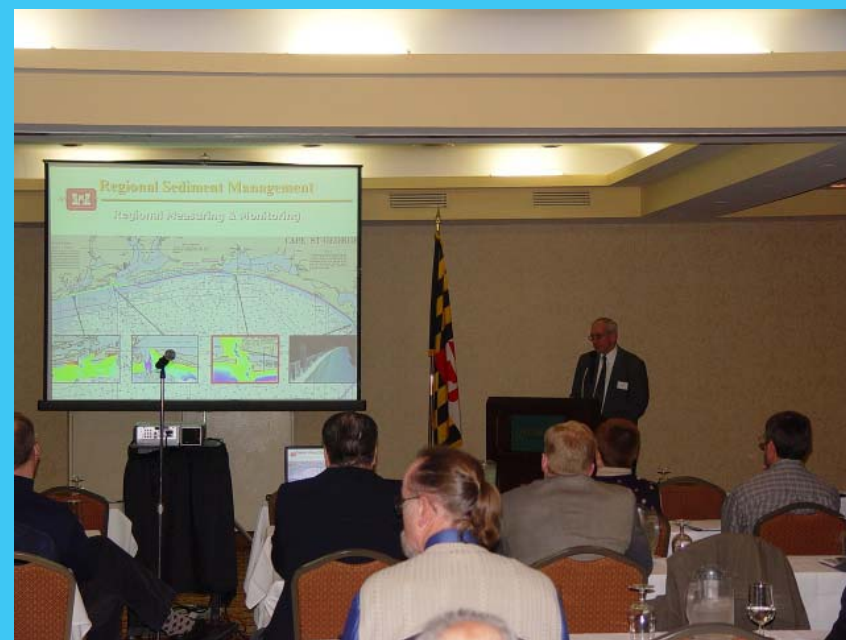
of dredged material and sponsors for near- and far-term dredging projects is recommended. Through this emphasis on beneficial use, sediment is considered a resource for uses such as habitat restoration and creation, beach nourishment, aquaculture, forestry, agriculture, mine reclamation, and industrial and commercial development. The Action Agenda does not, however, discuss potential consequences of removing sediment from the system through beneficial use. Nor is there discussion of sediment as a resource “like water” –to be managed to address quantity, quality, or timing issues.

Similarly, the recommendations for developing dredged material management plans in the context of watershed planning and management do not explicitly include consideration of the sediment system and sediment budgets. The emphasis on the watershed contexts is largely to understand sources of sediment and the influences on its quality, and potentially to reduce the quantity of sediment that ultimately needs to be dredged. However, the sediment system, and potential needs for and sediment resources are not explicitly discussed.

Some of the most commonly cited hurdles to using dredged material beneficially are similar to those identified as challenges to RSM: costs, the need for earlier planning and more widespread coordination, lack of complementary Federal and State regulatory frameworks for evaluating sediment as a resource, and a widespread misperception that dredged material is a waste instead of a resource.

The regional approaches to sediment management that are being advanced through the RSM Demonstration

Program and the NDT’s principles and Action Agenda are complimentary. Greater collaboration between RSM demonstration efforts, and the RDTs and local groups promulgating the NDT recommendations has the potential to achieve benefits through sharing data, information and technology, providing multiple avenues for stakeholder input into understanding and defining regional needs, opportunities and concerns, and for leveraging programs, projects, and talents (Figure 3).



*Figure 2. Barry Holliday, Co-Chair of the National Dredging Team and Navigation Program Manager for the US Army Corps of Engineers, provides an overview of dredging and sediment management in the United States*







# USACE, Galveston District Sponsors Stakeholder Workshops

*by Jeff Waters, U.S. Army Engineer District, Galveston*

Successful implementation of Regional Sediment Management (RSM) requires partnering at the Federal, state, and local levels. To encourage successful partnering, the U.S. Army Engineer District, Galveston, sponsored facilitated stakeholder workshops in Galveston and Corpus Christi, Texas. The workshops support the goal of the Galveston District RSM Project Delivery Team (PDT) to institutionalize RSM planning and implementation throughout the District and the state of Texas.

The focus of the meetings was to characterize RSM and to generate ideas for implementation of a state-wide program in Texas. A diverse group of stakeholders, representing more than 40 Federal, state, and local stakeholder interests, was assembled to discuss RSM issues and to share ideas, concerns, and information. The teams defined potential priorities, research and project needs, while also exploring possible barriers and constraints to partnering. The workshops were co-sponsored by the Texas General Land Office.

The Galveston District plans to follow up on these initial workshops this year with meetings to formalize a Texas advisory board for RSM. Most workshop participants indicated a preference for a governance structure similar to an Interagency Coordination Team (ICT). ICTs are typically co-chaired by the Corps and the project sponsor with state and Federal agencies composing the voting members. Federal resource agency representatives typically include U.S. Fish and Wildlife Service, National Marine Fisheries Service, U.S. Environmental Protection Agency, and the Natural Resources Conservation Service. State agencies represented on ICTs include Texas Parks and Wildlife Department, Texas Commission on Environmental Quality, Texas General Land Office, Texas Department of Transportation, Texas Railroad Commission, and the Texas Water Development Board. Other stakeholders including Non-Government Organizations (NGOs) and special interest groups with significant interest in the project are in-

vited to participate in the ICT process as advisory, but non-voting members of the ICT. Local stakeholders would also participate as members of regional subcommittees. A draft mission statement has been developed and is currently being circulated for comment.

The workshops, held June 22 and June 24, 2004, were professionally facilitated by Group Solutions, Inc., an Atlanta-based company that provides planning, strategy, and facilitation assistance for information gathering processes. The District's RSM PDT worked closely with the company's representatives to develop workshop goals and a meeting agenda. Twenty-five interactive computer stations were provided for use by workshop participants as well as complete meeting facilitation following a brief introduction to RSM by the District PDT. The use of interactive computer stations allowed workshop participants the opportunity to anonymously respond to any issue raised during the meeting and all input was compiled as a single



transcript that was delivered to the PDT following workshop completion. The workshops also consisted of some oral discussion sessions that were transcribed. In addition to the obvious benefits of fully transcribed meeting documents, the use of a “neutral” facilitator to conduct the meetings generated discussion on potentially controversial barriers and constraints to partnering that might have been avoided in a more traditional meeting format.

Implementation of RSM recognizes that the physical system and embedded ecosystems are modified and respond beyond the formal dimensions and time frames of individual projects (Figure 1). The larger spatial and longer temporal perspectives of RSM, as well as the broad range of disciplines with a stake in coastal, estuarine and river environments, require partnerships with and co-leadership of RSM initiatives by stakeholders. With this in mind, the goals of the Texas RSM Stakeholder Workshops included:

- Familiarize participants with an overview of RSM and the District’s approach to it

- Provide directional guidance and recommendations to the District on RSM
- Identify and clarify decision criteria for evaluating RSM opportunities
- Examine resource requirements for RSM partnering
- Create a list of potential RSM alternatives and capture team feedback on each
- Encourage commitment to ongoing dialogue and collaboration
- Consider and recommend appropriate next steps

During the workshops, the teams inventoried current research and data available to support future locations to apply the RSM opportunities, addressed research gaps that need to be filled, amassed a list of potential locations to apply the RSM concept, collected initial elements needed to develop a mission statement, discussed the formation of



an RSM advisory board and developed a preliminary list of representatives that should be involved. The two groups identified 38 specific stakeholder groups that were not represented at the workshops but who should be involved in RSM partnering. At the Galveston workshop, participants identified 67 potential opportunities to apply the RSM philosophy while the Corpus Christi group identified 41. In rating the effectiveness of the workshops on a scale of 1 to 10, Galveston participants rated the session an 8.1 with a high of 9 and a low of 7. Corpus Christi participants rated the session a 7.3 with a high of 9 and a low of 3.

*Figure 1. West end of seawall on Galveston Island demonstrates the importance of sediment management in out sand-starved system. All sand in front of seawall is long gone while downdrift is severely eroded.*

## 2005 Calendar

### 1-4 Aug - 2005 Tri-Service Infrastructure Systems

**Conference & Exhibition, The America's Center Convention Center St. Louis, MO.** The theme, "Re-Energizing Engineering Excellence," relates to the changes in manpower and methods mandated by current economics. Work is now transitioning to communities of practice and multi-agency working groups in an effort to economize, share resources and improve our methods. The conference is an opportunity to exchange ideas and knowledge within the technical community and includes representatives from the DoD services, other agencies and the private sector. It will consist of a plenary session on general engineering and construction topics followed by break out workshops on construction, geotechnical engineering, material engineering, mechanical engineering, electrical engineering, structural engineering, dam safety and hydrology & hydraulics. There will also be interdisciplinary sessions to include security engineering, specifications, cost engineering, CADD/GIS and other topics. Continuing education units will be provided for those attending the conference and the optional training sessions. The USACE National Erosion Control Development and Demonstration Program (Section 227) Workshop will be a part of the conference's "Coastal Tracks" agenda on August 4. **POC:** [vallen@ndia.org](mailto:vallen@ndia.org), Exhibit POC: [kstrange@ndia.org](mailto:kstrange@ndia.org), Online Registration: [http://register.ndia.org/interview/register.ndia?PID=GetID&MID=5150&SID=\\_1HT0PX470](http://register.ndia.org/interview/register.ndia?PID=GetID&MID=5150&SID=_1HT0PX470).

**28 Aug-2 Sep - 10th International Symposium on the Interactions between Sediment and Water** sponsored by the International Association for Sediment Water Science (IASWS) to be held in Bled, Slovenia, at the Grand Hotel Toplice. Details: <http://www.iasws.com/>.

**12-16 Sep - 16<sup>th</sup> International Conference on Soil Mechanics and Geotechnical Engineering, Osaka, Japan.** Information is available from <http://www.icsmge2005.org/>.

**21-23 Sep - Coasts and Ports 2005.** The NCCOE <http://www.ieaust.org.au/nccoe/conferen.htm> is hosting **Coasts and Ports 2005**, jointly with IPENZ and PIANC. This will be the 17th Australasian Coastal and Ocean Engineering Conference (incorporating the 10th Australasian Port and Harbour Conference) and is to be held in Adelaide, South Australia, at the Adelaide Hilton. The conference theme is "Coastal Living - Living Coast." Details: <http://www.plevin.com.au/coastsandports2005/>.

**28-30 Sep - Florida Shore & Beach Preservation Association Annual Meeting, Ocean Reef Club, Key Largo, FL.** For more information, please call (850) 906-9227 or go to: <http://www.fsbpa.com/conferences.html>.

**7-10 Nov - The 2005 Annual Conference of the American Water Resources Association, Red Lion Hotel, Seattle, WA.** This is one of North America's largest annual conferences, devoted to all aspects of water resources management. We invite each of you to participate in the broad range of technical, social and legal topics that will frame this year's program. In addition to the traditional focus on multidisciplinary subjects, sessions will be offered that address a mix of contemporary issues such as the effects of natural catastrophes on water supplies and human health, the renewed interest in large water projects, dam decommissioning, salmon recovery, and the increased risk to our nation's water supplies from terrorism and the steps taken to counteract it. Also included is a presentation on this past year's spectacular search for water on Mars. Details: <http://www.awra.org/meetings/Seattle2005/index.html>.

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## 2005 Calendar (Concluded)

**10-12 Oct - The American Shore & Beach Preservation Association, Hyatt Fisherman's Wharf Hotel, San Francisco, CA,** announces its call for presentations (<http://www.asbpa.org/2005fallconfcfp.html>) for the 2005 fall conference. Prospective presenters are encouraged to submit one-page summaries of their presentations via email to [Abstracts@asbpa.org](mailto:Abstracts@asbpa.org) by May 13, 2005. The ASBPA is the nation's oldest organization promoting science-based policies for the protection of beaches and shores. Presentations are invited on any topics related to the ASBPA mission. Details: <http://www.asbpa.org/2005fallconf.html>.

## 2006

**3-8 Sep - 30th International Conference on Coastal Engineering (ICCE), San Diego, CA,** will be held at the Manchester Brand Hyatt San Diego. Abstracts are due July 15, 2005. To Submit abstracts, enter your abstract title, subject and author information at the following Web site: <http://web2000.wes.army.mil/chlcpmf/submit/htm>. More information is available at <http://www.icce2006.com/>.

A comprehensive listing of water related conferences and workshops can be found at: <http://chl.erdc.usace.army.mil/CHL.aspx?p=s&a=Conferences!0>.

### New POCs

**Ty Wamsley** has assumed the position of Program Manager for the RSM Demonstration Program. He can be contacted at U.S. Army Engineer Research and Development Center, Coastal and Hydraulics Laboratory, 3909 Halls Ferry RD, Vicksburg, MS, 39180; Voice: (601) 634-2099; FAX: (601) 634-4314, e-mail, [Ty.V.Wamsley@erdc.usace.army.mil](mailto:Ty.V.Wamsley@erdc.usace.army.mil)

**Bill K. Mullen** is the point of contact for the RSM Newsletter and other technology transfer involving the program. He can be contacted at U.S. Army Engineer Research and Development Center, Coastal and Hydraulics Laboratory, 3909 Halls Ferry RD, Vicksburg, MS, 39180; Voice: (601) 634-2061; e-mail, [Bill.K.Mullen@erdc.usace.army.mil](mailto:Bill.K.Mullen@erdc.usace.army.mil)

### New On-line Publications

*Demonstration Program Briefs - On-line*  
*RSM Technical Notes - On-line*



## Dredging at Ventura Harbor